Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for treating a deposited high-k gate dielectric layer during fabrication of a semiconductor device, the method comprising:

nitriding a deposited high-k gate dielectric layer prior to forming a gate electrode;

performing a first anneal of the deposited high-k gate dielectric layer in a non-oxidizing ambient prior to ~~forming a gate electrode~~nitriding the deposited high-k gate dielectric layer; and

performing a second anneal of the deposited high-k gate dielectric layer in an oxidizing ambient prior to forming a the gate electrode and after nitriding the high-k gate dielectric layer.

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) The method of claim [[3]]1, wherein the first anneal is performed at a temperature of about 1000 degrees C or less.

5. (Original) The method of claim 4, wherein the first anneal is performed at a temperature of about 900 degrees C or less.

6. (Original) The method of claim 5, wherein the first anneal is performed at a temperature of about 700 degrees C or more.

7. (Original) The method of claim 5, wherein the non-oxidizing ambient of the first anneal comprises N_2, Ar, He, or Ne.

8. (Original) The method of claim 4, wherein the non-oxidizing ambient of the first anneal comprises N2, Ar, He, or Ne.

9. (Currently Amended) The method of claim [[3]]1, wherein the non-oxidizing ambient of the first anneal comprises N2, Ar, He, or Ne.

10-13. (Cancelled)

14. (Withdrawn) The method of claim 2, wherein the first anneal is performed after nitriding the high-k dielectric layer.

15. (Withdrawn) The method of claim 14, wherein the first anneal is performed at a temperature above about 1000 degrees C.

16. (Withdrawn) The method of claim 15, wherein the non-oxidizing ambient of the first anneal comprises N2, Ar, He, or Ne.

17. (Withdrawn) The method of claim 14, wherein the non-oxidizing ambient of the first anneal comprises N2, Ar, He, or Ne.

18. (Withdrawn) The method of claim 14, wherein nitriding the deposited high-k gate dielectric layer comprises performing a nitridation anneal in a nitrogen containing ambient.

19. (Withdrawn) The method of claim 18, wherein the nitridation anneal is performed at a temperature of about 1000 degrees C or less and wherein the nitrogen containing ambient comprises NH_3.

20. (Withdrawn) The method of claim 14, wherein nitriding the deposited high-k gate dielectric layer comprises performing a plasma nitridation process.

21. (Withdrawn) The method of claim 14, wherein the second anneal is performed at a temperature of about 1000 degrees C or less.

22. (Currently amended) The method of claim [[2]]1, wherein the second anneal is performed at a temperature of about 1000 degrees C or less.

23. (Original) The method of claim 22, wherein the second anneal is performed at a temperature of about 700 degrees C or less.

24. (Original) The method of claim 23, wherein the second anneal is performed at a pressure of about 1 Torr or less.

25. (Original) The method of claim 23, wherein the second anneal is performed at atmospheric pressure.

26. (Currently amended) The method of claim 22, wherein performing the second anneal comprises exposing the high-k gate dielectric layer to an oxidizing liquid solution.

27. (Original) The method of claim 26, wherein the oxidizing liquid solution comprises $H_2O + H_2O_2$.

28. (Withdrawn) The method of claim 26, wherein the oxidizing liquid solution comprises $H_2O + O_3$.

29. (Withdrawn) The method of claim 26, wherein the oxidizing liquid solution is taken from the group consisting of $H_2SO_4 + H_2O_2 + H_2O$, $H_2SO_4 + H_2O$, $HNO_3 + H_2O$, $HNO_3 + H_2O_2 + H_2O$, $HCl + H_2O_2 + H_2O$, and $NH_4OH + H_2O_2 + H_2O$.

30. (Withdrawn) The method of claim 22, wherein the second anneal is an oxidizing plasma process.

31. (Withdrawn) The method of claim 22, wherein the second anneal is an ozone anneal.

32. (Withdrawn) The method of claim 22, wherein the second anneal is a low temperature anneal with UV excitation in an oxidizing ambient.

33-43. (Cancelled)

44. (Currently amended) The method of claim [[33]]1, further comprising performing a third anneal in a non-oxidizing ambient after nitriding the deposited high-k dielectric layer.

45. (Original) The method of claim 44, wherein the third anneal is performed at a temperature above about 1000 degrees C.

46. (Original) The method of claim 45, wherein the non-oxidizing ambient of the third anneal comprises N2, Ar, He, or Ne.

47. (Original) The method of claim 44, wherein the non-oxidizing ambient of the third anneal comprises N2, Ar, He, or Ne.

48. (Original) The method of claim 44, wherein nitriding the deposited high-k gate dielectric layer comprises performing a nitridation anneal in a nitrogen containing ambient.

49. (Original) The method of claim 48, wherein the nitridation anneal is performed at a temperature of about 1000 degrees C or less and wherein the nitrogen containing ambient comprises NH_3.

50. (Original) The method of claim 44, wherein nitriding the deposited high-k gate dielectric layer comprises performing a plasma nitridation process.

51. (Cancelled)

52. (Currently amended) The method of claim 44, further comprising performing a fourth anneal in an oxidizing ambient after performing the ~~third~~ first anneal and prior to nitriding the high-k gate dielectric layer.

53. (Original) The method of claim 52, wherein the fourth anneal is performed at a temperature of about 700 degrees C or less.

54. (Original) The method of claim 53, wherein the fourth anneal is performed at a pressure of about 1 Torr or less.

55. (Original) The method of claim 53, wherein the fourth anneal is performed at atmospheric pressure.

56. (Original) The method of claim 52, wherein performing the fourth anneal comprises exposing the high-k dielectric layer to an oxidizing liquid solution.

57. (Original) The method of claim 56, wherein the oxidizing liquid solution comprises $H_2O + H_2O_2$.

58. (Withdrawn) The method of claim 56, wherein the oxidizing liquid solution comprises $H_2O + O_3$.

59. (Withdrawn) The method of claim 56, wherein the oxidizing liquid solution is selected from the group consisting of $H_2SO_4 + H_2O_2 + H_2O$, $H_2SO_4 + H_2O$, $HNO_3 + H_2O$, $HNO_3 + H_2O_2 + H_2O$, $HCl + H_2O_2 + H_2O$, and $NH_4OH + H_2O_2 + H_2O$.

60. (Withdrawn) The method of claim 52, wherein the fourth anneal is an oxidizing plasma process.

61. (Withdrawn) The method of claim 52, wherein the fourth anneal is an ozone anneal.

62. (Withdrawn) The method of claim 52, wherein the fourth anneal is a low temperature anneal with UV excitation in an oxidizing ambient.

63. (Original) The method of claim 1, wherein nitriding the deposited high-k gate dielectric layer comprises performing a nitridation anneal in a nitrogen containing ambient.

64. (Original) The method of claim 63, wherein the nitridation anneal is performed at a temperature of about 1000 degrees C or less and wherein the nitrogen containing ambient comprises NH_3.

65. (Original) The method of claim 1, wherein nitriding the deposited high-k gate dielectric layer comprises performing a plasma nitridation process.

66. (Currently Amended) A method of fabricating a transistor gate structure, the method comprising:

depositing a high-k gate dielectric layer above a semiconductor body;

nitriding a deposited high-k gate dielectric layer;

performing a first anneal of the deposited high-k gate dielectric in a non-oxidizing ambient prior to nitriding the deposited high-k gate dielectric layer;

performing a second anneal of the deposited high-k gate dielectric in an oxidizing ambient after nitriding the deposited high-k gate dielectric layer;

forming a gate electrode material layer above the gate dielectric layer after nitriding and after performing the first and second anneals; and

patterning the gate electrode and gate dielectric layers to form a patterned gate structure.

67. (Withdrawn) A method of treating a high-k gate dielectric layer, the method comprising:

performing one or more pre-nitridation anneal processes of a deposited high-k gate dielectric prior to forming a gate electrode;

performing a nitridation process after the pre-nitridation anneal processes; and

performing one or more post-nitridation anneal processes of a deposited high-k gate dielectric after the nitridation process and prior to forming a gate electrode.